

## ABSTRACT

A surface acoustic wave sensor or identification device has a piezoelectric substrate, an interdigitated transducer (IDT) input/output mounted on a substrate for receiving a radio frequency (RF) signal and propagating a corresponding surface acoustic wave along a surface of the substrate. An IDT reflector array is mounted on the substrate and operable to receive a surface acoustic wave and reflect the surface acoustic wave in modified form back to the IDT input/output for transmission of a corresponding modified RF signal from the device. The IDT reflector array has at least one reflector segment whose reflectivity characteristics are controlled to control the nature of the modified RF signal.